**REMARKS**

Reconsideration of this application is respectfully requested.

**Claim 1 is patentable over van Os and Kholodenko, because neither van Os nor Kholodenko, when considered singularly or in combination, disclose or suggest every limitation of claim 1.**

Claim 1 is patentable over the combination of van Os, US 5,792,272 and Kholodenko, US 6,185,839. Claim 1 is directed to a chemical vapor deposition system with a lid ***supporting*** a shower head disposed within the chemical vapor deposition chamber and ***separate*** from a first gas distribution channel disposed within the lid. Neither van Os nor Kholodenko disclose or suggest such a lid. In the Office Action, the Examiner suggests the element is disclosed by van Os.

The van Os reference discloses two separate gas injection manifolds (e.g., See van Os, element 15 of FIG's. 1, 3a-c; and element 17 of FIG's 1 and 4). Both gas injection manifolds can be used to deliver processing gases as well as cleaning gases into the plasma and processing chambers. Gas injection manifold 15 forms the top of a plasma chamber. However, gas injection manifold 17 has an annular configuration with an outer peripheral surface being mounted to the processing chamber. Therefore, gas injection manifold 17 does not form a lid on a CVD chamber, nor is it a shower head supported by such a lid, as is claimed in claim 1.

With respect to gas injection manifold 15, the manifold includes a plurality of gas inlet passages formed in the manifold base. A gas delivery line feeds gas to the gas inlet passages of the manifold. However, the gas injection manifold 15 does not ***support*** a shower head, separate from a gas distribution channel, for introducing processing gases into the chamber. Applicants' FIG. 1 clearly shows a shower head (e.g., element 160) as a separate component ***supported*** by the lid (e.g., element 115b) for introducing processing gases into the processing chamber. Van Os does not describe or suggest a lid ***supporting*** a shower head separate from a gas distribution channel, as is claimed in claim 1.

Furthermore, claim 1 states that the shower head is ***separate*** from the gas distribution channel. Accordingly, one skilled in the art will appreciate that process gases may be introduced into the process chamber via the shower head. Then, without reconfiguring a gas supply attached to the gas distribution channel, and with no gas supply switching mechanisms, a cleaning gas may be introduced into the CVD chamber via the gas distribution channel that is ***separate*** from the shower head. This is not possible in the system described by van Os.

According to van Os, the gas injection manifold (e.g., element 15) is used to provide processing gases as well as cleaning gases, but not separately. That is, only one or the other can occur at any one time.

In a previous Final Office Action, the Examiner pointed out that the gas injection manifold above the processing chamber (e.g., element 17) of van Os has two distinct conduits (e.g., elements 54 and 56 in FIG. 4 of van Oz) and that a separate gas might be introduced into the chamber independently via the separate conduits. However, gas injection manifold 17 does not form a lid to a chemical vapor deposition chamber; nor is it a shower head ***supported*** by such a lid. For those reasons alone the description of gas injection manifold 17 does not anticipate, or render obvious, claim 1. While gas injection manifold 15 can be said to form a lid of the plasma chamber, gas injection manifold 15 does not ***support*** a shower head that is ***separate*** from a first gas distribution channel disposed within a lid having cleaning gas injection ports. For all the reasons stated above, claim 1 and its dependent claims are not obvious in view of the combination of van Os and Kholodenko.

**Claim 1 is patentable over van Os and Kholodenko, because there is no motivation to combine van Os and Kholodenko.**

Claim 1 is directed to a chemical vapor deposition system with a plurality of cleaning gas injection ports, each of which is fluidly connected to a first gas distribution channel, and various ones of which are oriented at different angles with respect to an interior of a wall of the chemical vapor deposition chamber, said wall being attached to said lid. The van Os reference does not disclose or suggest such a feature. The Kholodenko reference discloses pairs of process gas injection nozzles positioned at inclined angles for introducing a process gas to a reaction chamber. The particular arrangement of the process gas injection nozzles described by Kholodenko is preferred because it "provide[s] a circulating gas flow pattern that provides a uniform distribution of process gas across the surface of the substrate and significantly improves substrate yields." (Col. 5, Lines 60-64).

Claim 1 refers to ***cleaning gas*** injection ports for introducing a cleaning gas into the chamber. Accordingly, the cleaning gas injection ports are oriented at different angles with respect to a wall so as to optimize their cleaning effect within the CVD chamber. Kholodenko is exclusively concerned with processing gas injection nozzles (e.g., injection ports for introducing ***processing gas*** into a chamber). The particular orientation of the injection nozzles

advocated by Kholodenko is done so to improve substrate yield. Therefore, one skilled in the art would not find motivation to orient cleaning gas injection ports at particular angles with respect to an interior wall of a CVD chamber from the Kholodenko reference, which advocates orienting gas nozzles to improve substrate yield.

If there are any additional fees due in connection with this communication, please charge Deposit Account No. 19-3140.

Respectfully submitted,
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